

THE IDENTITY OF *ALOE KNIPHOFIOIDES* BAK.

(With Plates V and VI.)

By G. W. REYNOLDS.

The identity of *A. kniphofioides* Bak., which has remained in doubt since Tyson first collected this species in 1885, can now be established.

The first publication by Baker in Hook. *Icon. pl.*, t. 1939 (1890) is short, incomplete, and rather vague. It reads : "*Acaulis, foliis linearibus rigidulis ascendentibus margine serrulatis, floribus in racemum laxum simplicem elongatum dispositis, bracteis ovatis acuminatis, pedicellis ascendentibus bracteis subaequilongis, perianthio pallide rubello tubo cylindrico, segmentis lineari-oblongis tubo triplo brevioribus, genitalibus inclusis.*

"Hab. Pondoland, in damp, grassy places on Mount Enkansweni, near the high road between the river Umtamvuna (mis-spelt Umtamerina) and Emagusheni, alt. 4,000 ft., Dec., 1885, Tyson (2829).

"*Folia* pedalia vel sesquipedalia, $1\frac{1}{2}$ —2 lin. lata. *Racemus* pedalis. *Perianthium* 15—18 lin. longum." (Plate 1939 includes one linear leaf, and a laxly flowered raceme.)

In the second publication, Baker, in Th. Dyer *Fl. capens.* VI, 305 (1896), adds little to his original account, while Berger in Engler *Pflrch. Liliac-Alcin.* 170 (1908) merely takes over Baker's account.

Up to this point, descriptions were founded on Tyson 2829, and not on a whole plant.

(1) In Albany Museum Herb. there is a sheet of Tyson 2829, marked Type Number, comprising two inflorescences and three leaves, with a note, "From 1 to 2 ft. high, in the grass, leaves all springing from base. A very pretty species with its crimson spikes." There is also a water colour of a raceme and a leaf, marked : "Mt. Enkansweni. To be found between that locality and W.M.S. Emfundisweni, East Pondoland. Dec., 1886. W. Tyson."

(2) In the South African Museum, Cape Town, there are three sheets from Tyson's Herbarium of his 2829 ; one labelled TYPE comprises three inflorescences, and five leaves, the locality cited being, "Grassy places, Mount Enkansweni, between the Umtamvuna River and Fort William". A photograph of this sheet is reproduced herein. (Plate V.)

(3) In Nat. Herb., Pretoria, there is also a sheet of Tyson 2829, very similar to the two above mentioned. All the sheets comprise leaves and inflorescence only—*none being of a whole plant*.

The type locality is, therefore, slopes of Mt. Enkansweni, between the Umtamvuna River and Emagusheni, Fort William, or the W.M.S. Emfundisweni. Mt. Enkansweni lies about five miles north-east of Emagusheni, which is a trading station on the road from Kokstad to Flagstaff. From the top of Enkansweni traces of the old road can still be seen. This was the only road from Pondoland to Natal in 1885, and much gun-running was carried on over it. In late January, 1940, the writer especially visited that locality in quest of *A. kniphofioides*, but though he searched far and wide his efforts were fruitless, probably due to flowers being over, since the species flowers in November to early December.

A clue to the solution of the puzzle was eventually provided by two sheets named *A. kniphofioides* in the Nat. Herb., Pretoria, namely Frank Brownlee 235, "On the banks of the Goxo River, Mt. Ayliff Dist., 3 Dec., 1920". The Goxo (Goxe or Coxo) River, a tributary of the Umtamvuna River, lies a few miles northwards of Mt. Enkansweni. Tyson's and Brownlee's localities are, therefore, comparatively adjacent.

Brownlee 235 comprises two *whole plants*, in which the linear leaves dilate considerably below ground level, becoming imbricate, and forming an ovoid bulb-like swelling below ground level.

The type specimen in Herb. Natal of *A. Marshallii* Wood et Evans, described in *Journ. Bot.*, p. 353 (1897), is J. Medley Wood 5192! Kelvin Grove (near Dundee, Natal), alt. 4-5,000 ped., 5/13/93. A note on the sheet reads, "Dr. Schönland, Oct., '04, thinks this is probably *A. kniphofioides* Bak. in *Icones Plant.* t. 1939, Sept., 1890—an earlier name."

Schönland was correct, the plants are very clearly conspecific; the earlier name *A. kniphofioides* must, therefore, be upheld, and *A. Marshallii* reduced to synonymy.

It is now evident that Tyson cut leaves and inflorescences *at ground level*, and by so doing missed the most distinguishing character of the species, namely, the leaves dilating and forming an ovoid bulb *below ground level*.

In the material of Tyson and Brownlee, the dried perianth is 33 mm. long, which suggests that living plants had slightly longer flowers. The species does not appear to have been collected between Pondoland and Dundee, Natal, but from personal observation it occurs in numbers near Utrecht, Natal; near Wakkerstroom, Piet Retief, Amsterdam, Barberton, White River and Rosehaugh, Transvaal; and almost throughout the

mountainous portions of Northern Swaziland. In these localities inflorescences reach a height of 40—55 cm., while flowers vary in length from 30 mm. in weak forms to 55 mm. in robust specimens, the average being 45—50 mm.

The following is the synonymy, together with description founded on the type and on plants observed in Natal, Swaziland, and the Eastern Transvaal :

Aloe kniphofioides Bak. in Hook. *Icon. plant.*, t. 1939 (Sept., 1890), in Th. Dyer *Fl. capens.* VI, 305 (1896); Berger in Engler *Pflrch. Liliac.-Aloin.*, 170 (1908).—*A. Marshallii* Wood et Evans in *Journ Bot.* XXXV, 353 (1897); Berger in Engler *Pflrch. Liliac.-Aloin.*, 171 (1908).
Note : Berger upheld both as species.

Plant acaulescent, solitary, with ovoid bulb-like swelling under ground, and fusiform roots. *Leaves* multifarious, about 20, narrowly linear, 20—30 cm. long, 6—7 mm. broad; upper surface flat to slightly canaliculate, lower surface convex; both surfaces green, without spots; margins entire or minutely dentate, the teeth white, retrospectively unicate, larger and more crowded low down, more distant and obsolescent upwards; below ground level the leaves imbricate, dilating to 25—30 mm. wide at base, about 5 mm. thick, and forming a distinct ovoid bulb-like swelling 6—8 cm. long, 5—6 cm. diam. *Inflorescence* simple, sometimes 2, up to 55 cm. tall, standing out above the leaf apices. *Peduncle* terete, 4—5 mm. diam., sterile bracteate from the middle upwards, the sterile bracts brownish, scarious, ovate-acuminate, about 15 mm. long, 7 mm. broad, 7—9 nerved. *Racemes* 10—15 flowered, about 10—15 cm. long, the buds more crowded, the flowers more laxly disposed, scarlet with greenish tips. *Bracts* narrowly ovate acuminate, up to 15 mm. long, thin, scarious, pale brownish, 7—9 nerved, a little longer than their pedicels. *Pedicels* lowest up to 15 mm. *Perianth* cylindrical, slightly curved, 30—50 mm. long, (45—50 mm. the average). *Outer segments* free for 6—8 mm., apices sub-acute, straight, obscurely nerved. *Inner segments* dorsally cohering to the outer for their greater length, broader than the outer, the free portion with a greenish keel, the apices almost rounded. *Filaments* flattened, the 3 inner narrower and lengthening in advance of the 3 outer. *Genitals* not or very shortly exerted. *Ovary* 6—7 mm. long, 2.5 mm. diam. (Plate VI.)

With its underground ovoid bulb, *A. kniphofioides* seems to be nearest allied to *A. bulbicaulis* Christian from the Northern Rhodesian-Belgian Congo border (see *Fl. Pl. S. Af.*, vol. XVI, Plate 630, 1936), but the latter is an entirely different plant with very different considerably larger leaves, a branched inflorescence, and very different flowers.

With its narrow linear leaves, *A. kniphofioides* is nearest allied to *A. chortolirioides* Berger, *A. Woolliana* Pole Evans and *A. dominella* Reynolds in the Section *Leptoaloe*, but differs from all known species (except *A. bulbicaulis*) with its underground ovoid bulb.



PLATE V.

A. kniphoides Bak.

Photograph of the type material (Tyson 2829), in the South African Museum, Cape Town.



FIG. 2.

PLATE VI.

A. kniphosifoides Bak.

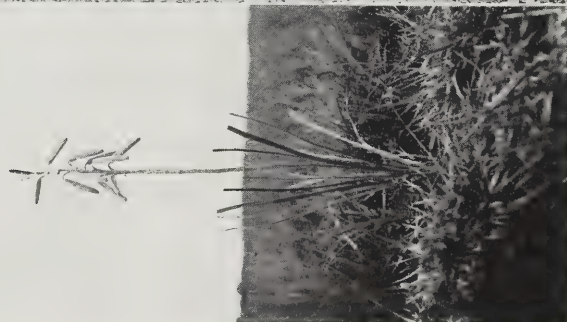


FIG. 1.



FIG. 3.

FIG. 1. Plant in natural habitat : near Piet Retief, Eastern Transvaal $\times 1/6$.
 FIG. 2. Two plants removed from the ground to show the underground ovoid bulb-like swelling $\times 1/5$.
 FIG. 3. Flowers natural size.